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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/540,890	03/31/2000	Hiroyuki Ota	072955/0101	1795

22428 7590 10/20/2004

FOLEY AND LARDNER  
SUITE 500  
3000 K STREET NW  
WASHINGTON, DC 20007

EXAMINER
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SNAPP, SANDRA S

ART UNIT	PAPER NUMBER
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3624

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/540,890

Applicant(s)

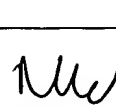
OTA, HIROYUKI

Examiner

Sandra Snapp

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16-19 is/are allowed.
- 6) ☒ Claim(s) 1-13 and 20-22 is/are rejected.
- 7) ☒ Claim(s) 14 and 15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Response to Amendment***

***Drawings***

The drawing objection cited in the previous office action is herein withdrawn because the formal drawings, with correct English translations, were present in the application (filed 8-16-00). The drawings were inadvertently misplaced when the application was reviewed for the previous office action. The Examiner apologizes for delaying review of those drawings and herein states they are considered acceptable at this time. Also, the submission of corrected drawing Figs. 5 and 12 in the Amendment of 12-3-3, is accepted.

***Specification***

The abstract of the disclosure was objected to in the previous office action, however the Amendment filed 12-3-3 has successfully amended the Abstract and the objection is withdrawn.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-22 were rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The Applicant successfully disclosed specific specification support for the "means" functions as claimed, thereby overcoming the rejection of record.

Claim 3 was rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as

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the invention. Claim 3 was amended to clarify the indefinite phrase and as such the rejection of record is withdrawn.

*However, currently claims 5, 8, 9, 10 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.*

Claims 5 and 20 are indefinite because the phrase “substantially zero” does not define the limitations of the claim, it is unknown what “substantially zero” means.

Claims 8, 9 and 10 are indefinite because the phrases “may substantially suffer” and “may suffer” are unclear. It is not known to the Examiner exactly what “may suffer” or “may substantially suffer” means.

#### ***Claim Rejections - 35 USC § 101***

Claims 1-20 were rejected under 35 U.S.C. 101 because they claim a “system” and it is unclear if the Applicant intends the ‘system’ to refer to an apparatus or a method. The Amendment of 12-3-3 identifies the Applicant’s intention of claiming an *apparatus* as stated on page 13 of the Amendment.

Claims 1-22 were rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims lack any reference to specific technology, i.e. a computer and related equipment. The Applicant stated, both in the interview with the Examiner, as well as in the Amendment on pages 12-13, the specific specification support for the “means” limitations, as well as defining them as various types of computer parts and peripherals thereby clarifying the claimed invention to be directed to *a computer implemented system*. Also, claim

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22 was amended to define the process as being computer implemented. Therefore, the rejections under 35 U.S.C. 101 are herein withdrawn.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-13, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Kealhof patent (US 6,078,903) in view of the Pitsianis et al. patent publication (US 2003/0088601 A1).

The Kealhofer patent discloses a computer based system for computing probability distribution of loan losses in a financing organization having a plurality of loan customers, comprising:

An input means for inputting loan amounts loaned to each said loan customer and bankruptcy probabilities of each said loan customer (col. 2, line 62 through col. 3, line 41),

A characteristic function calculating means for calculating a characteristic function on the basis of each said loan amount and each said bankruptcy probability inputted through said input means (col. 4, lines 24-52),

A probability distribution calculating means for calculating a probability distribution by and said characteristic function calculated by said characteristic function calculating means (col. 5, line 16 through col. 6, line 53), and

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A probability distribution output means for outputting said probability distribution calculated by said probability distribution calculating means (col. 4, lines 17-23) (claims 1, 6, 8, 9, 10, 11, 12, 21 and 22), and

An acquiring means for acquiring rating fluctuation probabilities which are the probabilities of fluctuation in ratings of each said loan customer, and credit value changing amount which are changes in value of the credit to each said loan customer caused by the fluctuation in the ratings thereof (col. 4, lines 43-67) (claim 6), and

An actual loss calculating means for calculating losses which are amounts of the losses said financing organization may substantially suffer when each said loan customer goes into bankruptcy (col. 4, lines 43-67) (claim 8), and

A scenario acquiring means for acquiring a plurality of actual losses which are amounts of losses said financing organization may suffer when each said loan customer goes into bankruptcy by predicting future fluctuations, and a plurality of bankruptcy probabilities of each said loan customer by predicting future fluctuations, and using these values as a plurality of scenarios (col. 4, lines 43-67),

An average probability distribution calculating means for calculating an average probability distribution which is the average of the probability distributions for each said scenario (col. 5, line 16 through col. 6, line 53) (claims 9, 10, 11 and 12);

A loan amount rounding means for rounding each said loan amount inputted through said input means to a number which is an integer multiple of a predetermined unit (col. 5, line 16 through col. 6, line 53) (claim 3);

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The probability distribution output means outputs a graph grading probability densities on its ordinate and loan losses on its abscissa, the maximum value on the abscissa of said graph being the sum of the loan amounts (col. 4, lines 17-23) (claim 4) or being a loan loss over which probability of occurrence can be regarded substantially zero in the calculating process (col. 4, lines 17-23) (claim 5);

The acquiring means including an input means for inputting loan amounts loaned to each said loan customers and loss ratios caused by fluctuations in rating of each said loan customers (col. 5, line 16 through col. 6, line 53), and

A changing amount calculating means for calculating said credit value changing amount of each said loan customer from each said loan amount and each said loss ratio (col. 5, line 16 through col. 6, line 53) (claim 7);

The scenario acquiring means expresses probabilities of bankruptcy of said loan customers by a function, and acquires said plurality of bankruptcy probabilities according to the function (col. 5, line 16 through col. 6, line 53) (claim 13).

The Kealhofer patent discloses all the elements of the present invention, as stated above, except for:

Using Fourier transform inversion and such transform being fast Fourier transform technique (claims 1, 2, 6, 8, 9, 10, 11, 12, 21 and 22).

The Pitsianis publications discloses using Fourier transform inversion and such transform being fast Fourier transform technique (Abstract) (claims 1, 2, 6, 8, 9, 10, 11, 12, 21 and 22).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the Kealhofer system to include the use of Fourier transform techniques so as to provide a faster, more efficient means of performing complex calculations.

***Allowable Subject Matter***

Claims 14 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 20 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Claims 16-19 are allowed.

The following is an examiner's statement of reasons for allowance: none of the prior art shows, discloses or teaches a computer based system that calculates a characteristic function using the specified equation, as claimed in claim 16.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Casio Computer patent and the Arve Freedman patent are both herein cited as showing computer systems used in electronic financial systems. The Cummins article specifically references Fourier inversion and probability distributions.



Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sandra Snapp whose telephone number is 703-305-6940. The examiner can normally be reached on Mon.-Thurs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vincent Millin can be reached on 703-308-1065. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

CS

SS

*Vincent Millin*

VINCENT MILLIN  
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